

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently amended) A heat exchanger, in particular for a motor vehicle, having a heat exchanger block which has pipes through which a first medium can flow on the primary side, and pipes around which a second medium can flow on the secondary side, said pipes having flow ducts and pipe ends, ~~at least one~~ a first end piece and a second end piece which holds ~~hold~~ the pipe ends and ends, ~~each have end piece having~~ at least one base plate, diverter plate and cover plate as well as at least one inlet chamber and/or outlet chamber which is connected to one, ~~or in each case to one,~~ end piece, it being possible to conduct the first medium from the inlet chamber to the outlet chamber through the flow ducts, and with a housing casing having open ends which housing casing surrounds the pipes and has an inlet and an outlet for the second medium, the open ends of the housing casing being closed by said first end piece and said second end piece.

2. (Previously presented) The heat exchanger as claimed in claim 1, wherein the pipes are embodied in particular as extruded flat pipes.

3. (Previously presented) The heat exchanger as claimed in claim 1, wherein the pipes each have a plurality of flow ducts.

4. (Previously presented) The heat exchanger as claimed in claim 1, wherein the heat exchanger block has at least two end pieces.

5. (Previously presented) The heat exchanger as claimed in claim 1, wherein the housing casing is arranged between two end pieces.

6. (Previously presented) The heat exchanger as claimed in claim 1 wherein at least two plates of an end piece are embodied in an integral fashion.

7. (Previously presented) The heat exchanger as claimed in claim 1, wherein the housing casing is embodied as a single-part or multipart sheet-metal casing.

8. (Previously presented) The heat exchanger as claimed in that claim 1, wherein the housing casing is connected in a materially joined fashion, in particular soldered, to the at least one end piece.

9. (Previously presented) The heat exchanger as claimed in claim 1, wherein the housing casing has an essentially rectangular cross section with four sides.

10. (Previously presented) The heat exchanger as claimed in claim 1, wherein the inlet and the outlet are arranged on opposite sides of the housing casing.

11. (Withdrawn) The heat exchanger as claimed in claim 1, wherein the inlet and the outlet are arranged on the same side of the housing casing.

12. (Previously presented) The heat exchanger as claimed in claim 1, wherein the inlet and the outlet are arranged at opposite ends of the housing casing.

13. (Previously presented) The heat exchanger as claimed in claim 1, wherein distributor and collector chambers are formed in the housing casing in the region of the inlet and outlet.

14. (Currently amended) A heat exchanger for a motor vehicle, having a heat exchanger block which has pipes, running in a longitudinal direction, through which a first medium can flow on the primary side, and pipes around which a second medium can flow on the secondary side, said pipes having flow ducts and pipe ends, ~~at least one end piece which holds~~ first and second end pieces that hold the pipe ends and that each have at least one base plate, diverter plate and cover plate as well as at least one inlet chamber and/or outlet chamber which is connected to one, ~~or in each case to one,~~ end piece, the first medium being conductable from the inlet chamber to the outlet chamber through the flow ducts, and with a housing casing which surrounds the pipes and has an inlet and an outlet for the second medium,

wherein corrugated pieces of sheet metal with longitudinal ducts running in the longitudinal direction are arranged between the pipes.

15. (Previously presented) The heat exchanger as claimed in claim 14, wherein the corrugated pieces of sheet metal have a longitudinal extent which corresponds to the distance between the inlet and outlet.

16. (Previously presented) The heat exchanger as claimed in claim 14, wherein the corrugated pieces of sheet metal are embodied in a rectangular shape and leave an approximately rectangular inflow and outflow region between the pipes.

17. (Previously presented) The heat exchanger as claimed in claim 14, wherein the corrugated pieces of sheet metal are embodied in the form of a parallelogram and leave approximately triangular or trapezoidal inflow and outflow regions between the pipes.

18. (Withdrawn) The heat exchanger as claimed in claim 1, wherein the inlet and the outlet are arranged opposite one another, and in that a dividing wall is left between the inlet and outlet in order to form an inflow region and an outflow region, and a diverter section is left at the end of the housing casing facing away from the inlet and outlet, and in that the housing casing can be configured for at least a dual flow in the longitudinal direction on the secondary side.

19. (Withdrawn) The heat exchanger as claimed in claim 1, wherein the second medium is guided essentially transversely with respect to the longitudinal direction of the pipes through the block.

20. (Withdrawn) The heat exchanger as claimed in claim 19, wherein the second medium can be diverted at least once in the longitudinal direction, and the heat exchanger block can be configured for at least dual flow.

21. (Withdrawn) The heat exchanger as claimed in claim 1, wherein the housing casing with the pipes and the block forms an inlet chamber and an outlet chamber for the second medium, which chambers extend in the longitudinal direction of the pipes.

22. (Withdrawn) The heat exchanger as claimed in claim 21, wherein inlet and outlet ducts for the second medium are arranged at the end pieces, said inlet and outlet ducts communicating with the inlet and outlet chambers.

23. (Withdrawn) The heat exchanger as claimed in claim 1, wherein at least one diversion box is arranged in the housing casing, and at least one transversely extending dividing wall is arranged between the pipes.

24. (Previously presented) The heat exchanger as claimed in claim 1, wherein corrugated ribs or turbulence inserts which form transverse ducts for the second medium are arranged between the pipes.

25. (Previously presented) The heat exchanger as claimed in claim 1, wherein the heat exchanger block is configured for a single flow on the primary side.

26. (Previously presented) The heat exchanger as claimed in claim 1, wherein the heat exchanger block can be configured for a dual flow or more on the primary side.

27. (Previously presented) The heat exchanger as claimed in claim 1, wherein the first medium is a refrigerant which can be operated in particular in dual phase or supercritically.

28. (Previously presented) The heat exchanger as claimed in claim 1, wherein the second medium is a fluid, and in particular a fluid coolant.

29. (Currently amended) A heat exchanger for a motor vehicle comprising:  
a heat exchanger block comprising a plurality of pipes, each of said plurality of pipes having a plurality of flow ducts and first and second ends, the flow ducts extending in a longitudinal direction from the first pipe ends to the second pipe ends, a first end plate piece connected to the first pipe ends and a second end plate piece connected to said second pipe ends, said first end piece including a first diverter plate mounted proximate said first end plate and a second diverter plate mounted proximate said second end plate, and a first cover plate covering said first diverter plate and a second cover plate covering said second diverter plate, at least one inlet chamber and/or outlet chamber connected to said first or second end plate piece, said flow ducts of said plurality of pipes defining a primary flow path for a first medium and spaces between said pipes defining a secondary flow path for a second medium, the flow ducts

being configured to conduct the first medium from the inlet chamber to the outlet chamber; and

a housing casing surrounding the pipes and having first and second open ends and at least on sidewall, said housing casing and including [[a]] an inlet and an outlet for the second medium in said at least one sidewall, the spaces being configured to conduct the second medium from the housing inlet to the housing outlet and to keep the second medium separate from the first medium, said first and second open ends being closed by said first and second end pieces.

30. (Previously presented) The heat exchanger as claimed in claim 29, further including corrugated pieces of sheet metal with ducts running in the longitudinal direction in the spaces between the pipes.

31. (Previously presented) The heat exchanger as claimed in claim 30, wherein a length of the ducts of the corrugated pieces of sheet metal is less than a distance from the first end plate to the second end plate.

Claim 32 (Cancelled).

Claim 33 (New) The heat exchanger as claimed in claim 29 wherein said housing casing is in contact with said first end piece and said second end piece and extends from said first end piece to said second end piece.